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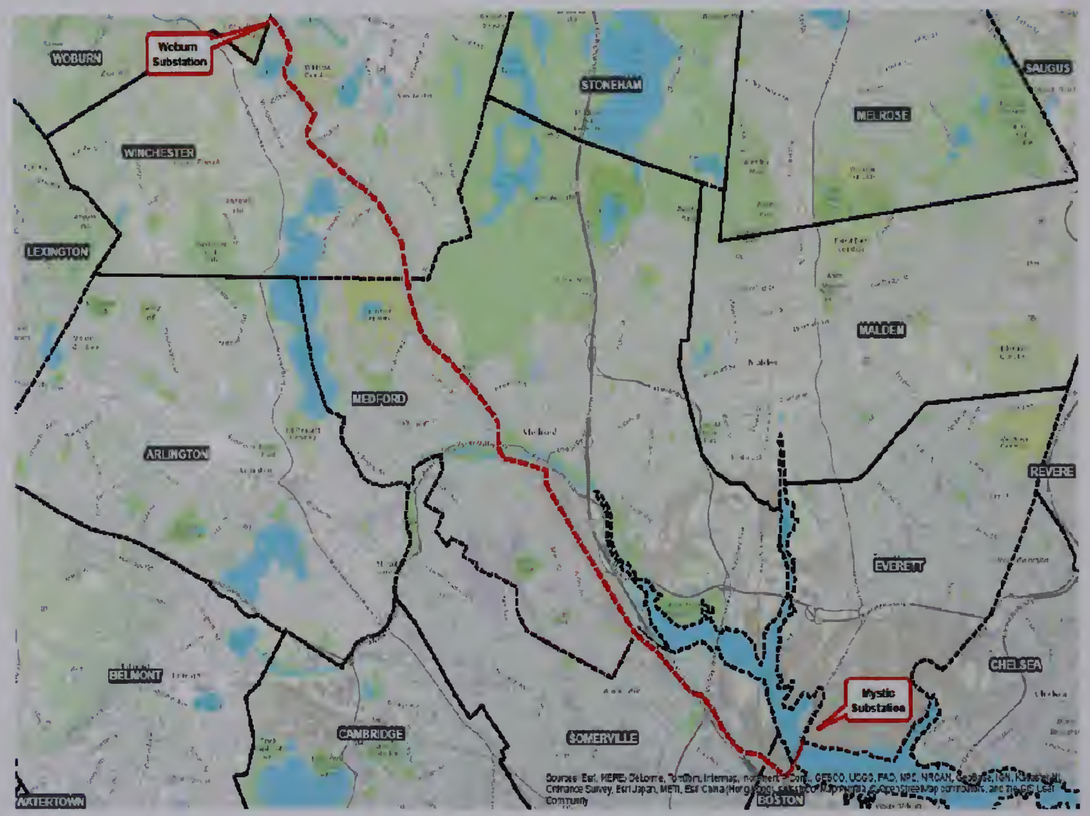
Mystic-Woburn Transmission Project

Analysis to Support Petition before the Massachusetts Energy Facilities Siting Board

Volume II - Figures



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May 2015

PREPARED FOR:

EVERSOURCE

IN ASSOCIATION WITH:

POWER ENGINEERS
Environmental Services Div.

Tighe&Bond

KEEGAN WERLIN LLP

632714683

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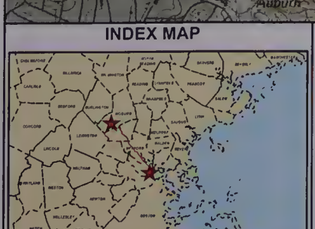
FIGURE 5-1

Route Study Area

INDEX MAP



Map Notes:
Basemap: USGS Quadrangle Basemap, MassGIS

Legend

- Route 1 (Existing 211/514 Line)
- Existing Mystic River Crossing
- StudyArea
- Outside Study Area
- Municipal Boundary

Figure 5-1
Woburn Substation to Mystic Substation
New 115kV Transmission Line

Route Study Area

N

W E

S

0 1,000 2,000 4,000

Feet

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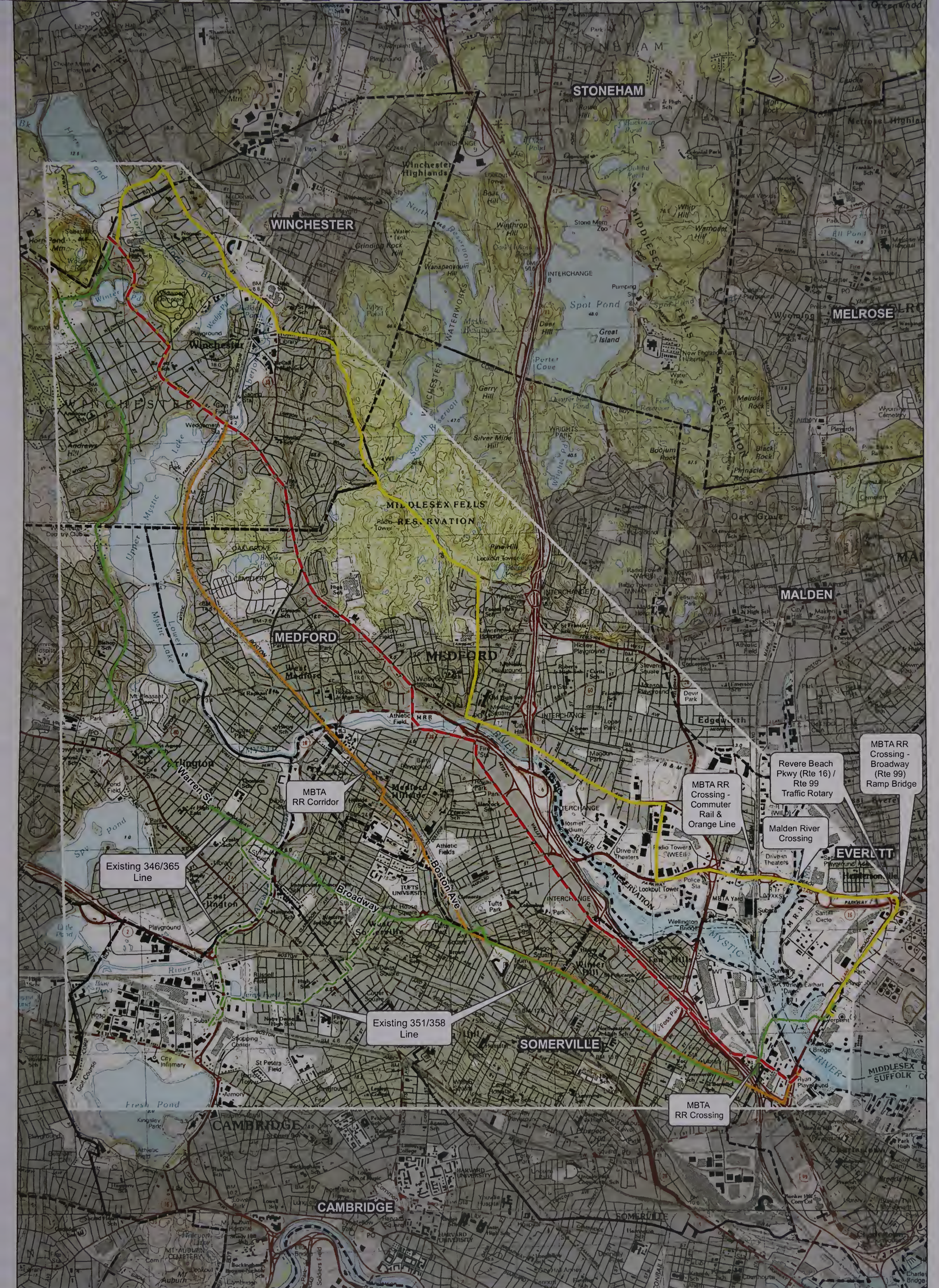
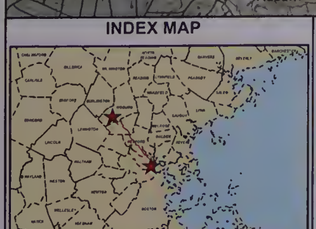
FIGURE 5-2

Initial Route Corridors – Screening Level



INDEX MAP



Map Notes:
Basemap: USGS Quadrangle Basemap, MassGIS

Legend

- Woburn to Mystic Alternative Route 1 (Parallel Lines 211/514)
- Woburn to Mystic Alternative Route 2
- Woburn to Mystic Alternative Route 3
- Woburn to Mystic Primary Alternative Route 4
- StudyArea
- Outside Study Area
- Municipal Boundary

Figure 5-2
Woburn Substation to Mystic Substation New 115kV Transmission Line

Initial Route Corridors - Screening Level

0 1,000 2,000 4,000 Feet

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FIGURE 5-3

Candidate Routes - Overview Map

WOBURN
STONEHAM
MEDFORD
MALDEN
EVERETT
WINCHESTER
SOMERVILLE
CAMBRIDGE
ARLINGTON
BOSTON (CHARLESTOWN)

Revere Beach Pkwy (Rte 16) / Rte 99 Traffic Rotary
MBTA RR Crossing - Broadway (Rte 99) Ramp Bridge
Mystic Substation
Route 4, 4A, & 4B
Malden River Crossing
Use Existing Crossing (spare conduit)
MBTA RR Crossing - Commuter Rail & Orange Line
MBTA RR Crossing
Winchester Center
Route 4
South Reservoir
Route 4
Medford Center
Route 4A, 4B
Route 4B
Route 1A
Route 1B
Route 4A
Route 4A
Route 1, Route 4A & 4B
Route 1
Route 1 and 4B
Woburn Substation

Fellsway
Mystic Valley Pkwy
Revere Beach Pkwy
Commercial St
Riverside Ave
Governors Ave
High St
South Border Rd
Skillings Rd
Main St
Lake St
Lake Ter
Sylvester Ave
Wedge Pond
Palmer St
Aberjona River
Bacon St
Pond St
Woodside Rd
Wildwood St
Fletcher St
Winter Pond
Upper Mystic Lake
Horn Pond
Lawrence Rd
Playstead Rd
South St
Mystic River
Bailey Rd
Mystic Ave
Arlington Ave
Main St
Wheatland St
Fellsway W.
Grant St
Broadway
McGrath Hwy

93
38
60
16
28

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the Community

INDEX MAP

Legend

- Route 1 (Parallel Lines 211/514)
- Route 1A (MBTA RR crossing; use Maffa Way Bridge & Rte 38 south ramp)
- Route 1B (MBTA RR Crossing; use Rte 38 (Main Street/Mystic Avenue) Bridge)
- Route 4
- Route 4A
- Route 4B
- Existing Mystic River Crossing
- Municipal Boundary

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 1,000 2,000 4,000 Feet

Figure 5-3

New 115 kV Transmission Line Woburn Substation to Mystic Substation Candidate Routes - Overview Map

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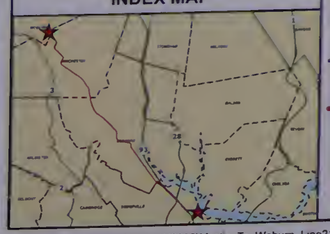
FIGURE 5-4

Candidate Routes (Sheets 4 of 4)

INDEX MAP



Legend

- Route 1 (Parallel Lines 211/514)
- Route 1A (MBTA RR crossing; use Maffa Way Bridge & Rte 38 south ramp)
- Route 1B (MBTA RR Crossing; use Rte 38 (Main Street/Mystic Avenue) Bridge)
- Route 4
- Route 4A
- Route 4B
- Existing Mystic River Crossing
- Municipal Boundary

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

Figure 5-4

New 115 kV Transmission Line Woburn Substation to Mystic Substation Candidate Routes

Mapsheet 01 of 04

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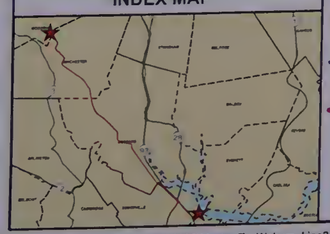
Stoneham
Medford
South Reservoir
93
Route 4
Route 4
Vernon St
South Border Rd
Route 4A, 4B
Governors Ave
Medford Center
Forest St
High St
Route 4B
Mystic Valley Pkwy
38
Highland Ave
Lawrence Rd
60
Mystic Valley Pkwy
38
High St
16
South St
Walnut St
Route 4A
Aberjona River
38
Mystic River Crossing
Route 1, Route 4A & 4B
North Gateway
Winchester
Medford
Brooks St
Winthrop St
Church St
Bacon St
Aberjona River Crossing
Playstead Rd
Woburn St
Mystic River
Upper Mystic Lake
Grove
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

INDEX MAP



Legend

- Route 1 (Parallel Lines 211/514)
- Route 1A (MBTA RR crossing; use Maffa Way Bridge & Rte 38 south ramp)
- Route 1B (MBTA RR Crossing; use Rte 38 (Main Street/Mystic Avenue) Bridge)
- Route 4
- Route 4A
- Route 4B
- Existing Mystic River Crossing
- Municipal Boundary

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

Figure 5-4

New 115 kV Transmission Line
Woburn Substation to Mystic Substation
Candidate Routes

Mapsheet 02 of 04

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MBTA RR Crossing - Commuter Rail & Orange Line

Route 4

Route 4A, 4B

Medford Center

Mystic River Crossing

Mystic Valley Pkwy/Rte. Southbound Ramp

Everett

Fellsway

Second St

Mystic Valley Pkwy

Commercial St

Washington St

Spring St

Riverside Ave

Governors Ave

Forest St

High St

Lawrence Rd

Mystic Valley Pkwy

South St

Walnut St

Main St

Hancock St

Bonner Ave

Locust St

Mystic Valley Pkwy

Mystic River

Shore Dr

Temple Rd

Bailey Rd

Connors Dr

Grant St

Wheatland St

Fellsway W.

Temple St

Somerville

Medford

Broadway

Medford St

Winthrop St

93

28

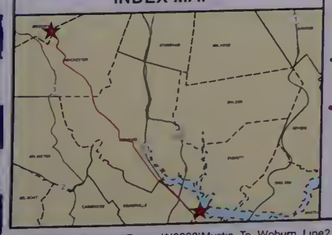
38

60

16

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the Community

INDEX MAP



Legend

- Route 1 (Parallel Lines 211/514)
- Route 1A (MBTA RR crossing; use Maffa Way Bridge & Rte 38 south ramp)
- Route 1B (MBTA RR Crossing; use Rte 38 (Main Street/Mystic Avenue) Bridge)
- Route 4
- Route 4A
- Route 4B
- Existing Mystic River Crossing
- Municipal Boundary

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

Figure 5-4

New 115 kV Transmission Line
Woburn Substation to Mystic Substation
Candidate Routes

Mapsheet 03 of 04

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Revere Beach Pkwy (Rte 16) / Rte 99 Traffic Rotary

MBTA RR Crossing - Broadway (Rte 99) Ramp Bridge

Route 4, 4A, & 4B

Malden River Crossing

MBTA RR Crossing - Commuter Rail & Orange Line

Mystic Substation

Use Existing Mystic River Crossing (spare conduit)

MBTA RR Crossing

Route 1B

Route 1A

Revere Beach Pkwy

Santilli Hwy

Beacham St

Mystic River

Chelsea

Everett

Dexter St

Mystic Valley Pkwy

Second St

Fellsway

Somerville

Boston

Arlington Ave

Alford St/Rte 99

Main St

Commercial St

Locust St

Mystic River

Shore Dr

Temple Rd

Mystic Ave

Charlestown

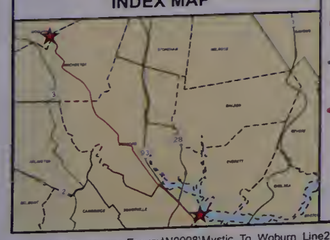
28

38

93

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the Community

INDEX MAP



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- Route 4
- Route 4A
- Route 4B
- Existing Mystic River Crossing
- Municipal Boundary

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

Figure 5-4

New 115 kV Transmission Line Woburn Substation to Mystic Substation Candidate Routes

Mapsheet 04 of 04

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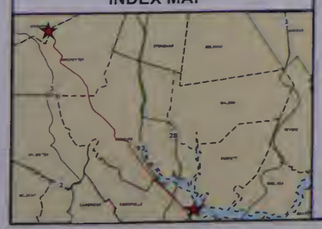
FIGURE 5-5

Candidate Routes - Land Use and Transportation Facilities

INDEX MAP



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- Route 1A (MBTA RR crossing; use Maffa Way Bridge & Rte 38 south ramp)
- Route 1B (MBTA RR Crossing; use Rte 38 (Main Street/Mystic Avenue) Bridge)
- Route 4
- Route 4A
- Route 4B
- Existing Mystic River Crossing
- Municipal Boundary
- Waterbody Crossing

Land Use

- Commercial
- Residential
- Industrial
- Multi-Family Residential

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

Figure 5-5

New 115 kV Transmission Line Woburn Substation to Mystic Substation Candidate Routes - Land Use and Transportation Facilities

Mapsheet 01 of 04

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INDEX MAP

Legend

- Route 1 (Parallel Lines 211/514)
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- Route 4
- Route 4A
- Route 4B
- Existing Mystic River Crossing
- Municipal Boundary
- Waterbody Crossing

Land Use

- Commercial
- Residential
- Industrial
- Multi-Family Residential

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

Figure 5-5

New 115 kV Transmission Line
Woburn Substation to Mystic Substation
Candidate Routes - Land Use and Transportation Facilities

Mapsheet 02 of 04

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MBTA RR Crossing - Commuter Rail & Orange Line

Public Bus Route

MBTA T-Station (Wellington)

Route 4

Public Bus Route

Medford Center

Route 4A & 4B

Route 1A

Public Bus Route

93

28

38

60

16

Second St

Fellsway

Everett

Washington St

Spring St

Locust St

Mystic River

Temple Rd

Governors Ave

Forest St

Lawrence Rd

High St

Walnut St

Hancock St

Bonner Ave

Medford

Somerville

Broadway

Temple St

Connors Dr

Grant St

Wheatland St

Fellsway W

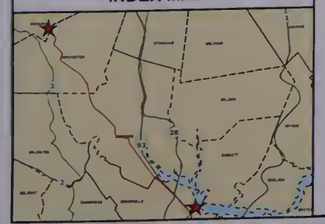
Main St

Winthrop St

Medford St

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the Community

INDEX MAP



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- Route 1B (MBTA RR Crossing; use Rte 38 (Main Street/Mystic Avenue) Bridge)
- Route 4
- Route 4A
- Route 4B
- Existing Mystic River Crossing
- Municipal Boundary
- Waterbody Crossing

Land Use

- Commercial
- Residential
- Industrial
- Multi-Family Residential

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

Figure 5-5

New 115 kV Transmission Line Woburn Substation to Mystic Substation Candidate Routes - Land Use and Transportation Facilities

Mapsheet 03 of 04

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Revere Beach Pkwy (Rte 16) / Rte 99 Traffic Rotary

MBTA RR Crossing - Broadway (Rte 99) Ramp Bridge

Route 4, 4A, & 4B

Malden River Crossing

Public Bus Route

Mystic Substation

MBTA RR Crossing - Commuter Rail & Orange Line

Use Existing Mystic River Crossing (spare conduit)

MBTA T-Station (Wellington)

Public Bus Route

MBTA RR Crossing

Route 1B

Route 1A

Bus Station

Revere Beach Pkwy

Santilli Hwy

Beacham St

Chelsea

Mystic River

Everett

Dexter St

Second St

Fellsway

Somerville

Boston

Charlestown

Route

Locust St

Mystic River

Temple Rd

28

93

Boston

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the Community

INDEX MAP

Legend

- Route 1 (Parallel Lines 211/514)
- Route 1A (MBTA RR crossing; use Maffa Way Bridge & Rte 38 south ramp)
- Route 1B (MBTA RR Crossing; use Rte 38 (Main Street/Mystic Avenue) Bridge)
- Route 4
- Route 4A
- Route 4B
- Existing Mystic River Crossing
- Municipal Boundary
- Waterbody Crossing

Land Use

- Commercial
- Residential
- Industrial
- Multi-Family Residential

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

Figure 5-5

New 115 kV Transmission Line
Woburn Substation to Mystic Substation
Candidate Routes - Land Use and Transportation Facilities

Mapsheet 04 of 04

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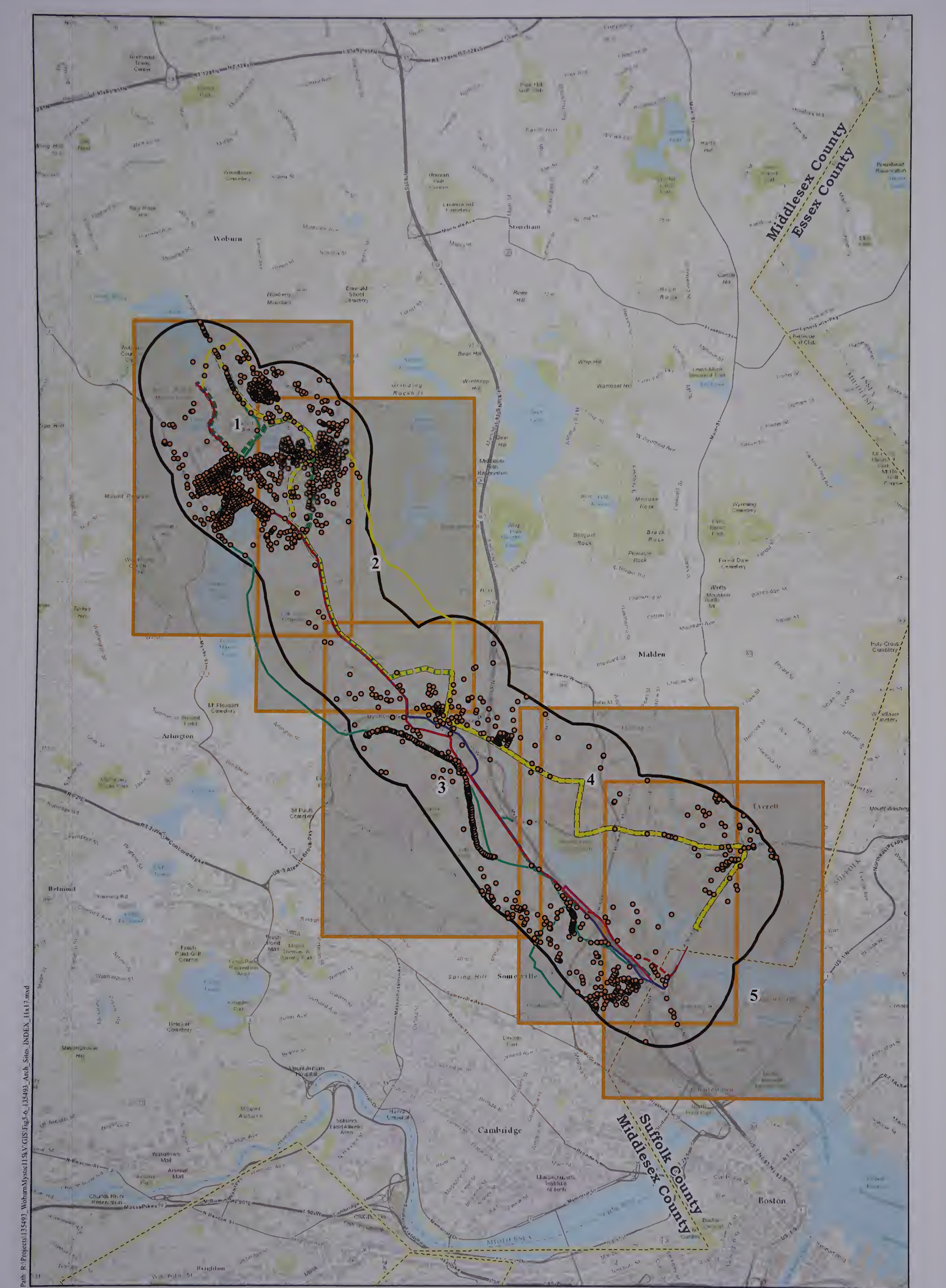
FIGURE 5-6

Historic Resources



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Middlesex and Suffolk Counties
Boston Township
Everett Township
Medford Township
Somerville Township
Winchester Township
Woburn Township

Project Location

- Historic Properties
- Existing Mystic River Crossing
- Route 1 (Parallel Lines 211/514)
- Route 1A (MBTA RR crossing; use Maffa Way Bridge & Rte 38 south ramp)
- Route 1B (MBTA RR crossing; use Rte 38 [Maine Street/Mystic Avenue] Bridge)
- Route 4
- Route 4A
- Route 4B
- Canal
- Map Tiles
- Half Mile Buffer
- County Boundary

N
W E
S

1 " = 4,000 '

0 1,000 2,000 4,000
Feet

INDEX of
5 Map Tiles

NAD 1983 StatePlane Massachusetts Mainland FIPS 2001 Feet
Feet US
Lambert Conformal Conic
North American 1983

The State of Massachusetts
Middlesex and Suffolk Counties:
Boston, Everett, Medford, Somerville, Winchester, and Woburn Townships

Date: 5/18/2015
Author: KK
POWER-135493

New 115 kV Transmission Line
Woburn Substation to
Mystic Substation
Candidate Route Alternatives

Figure 5-6
Historic Resources

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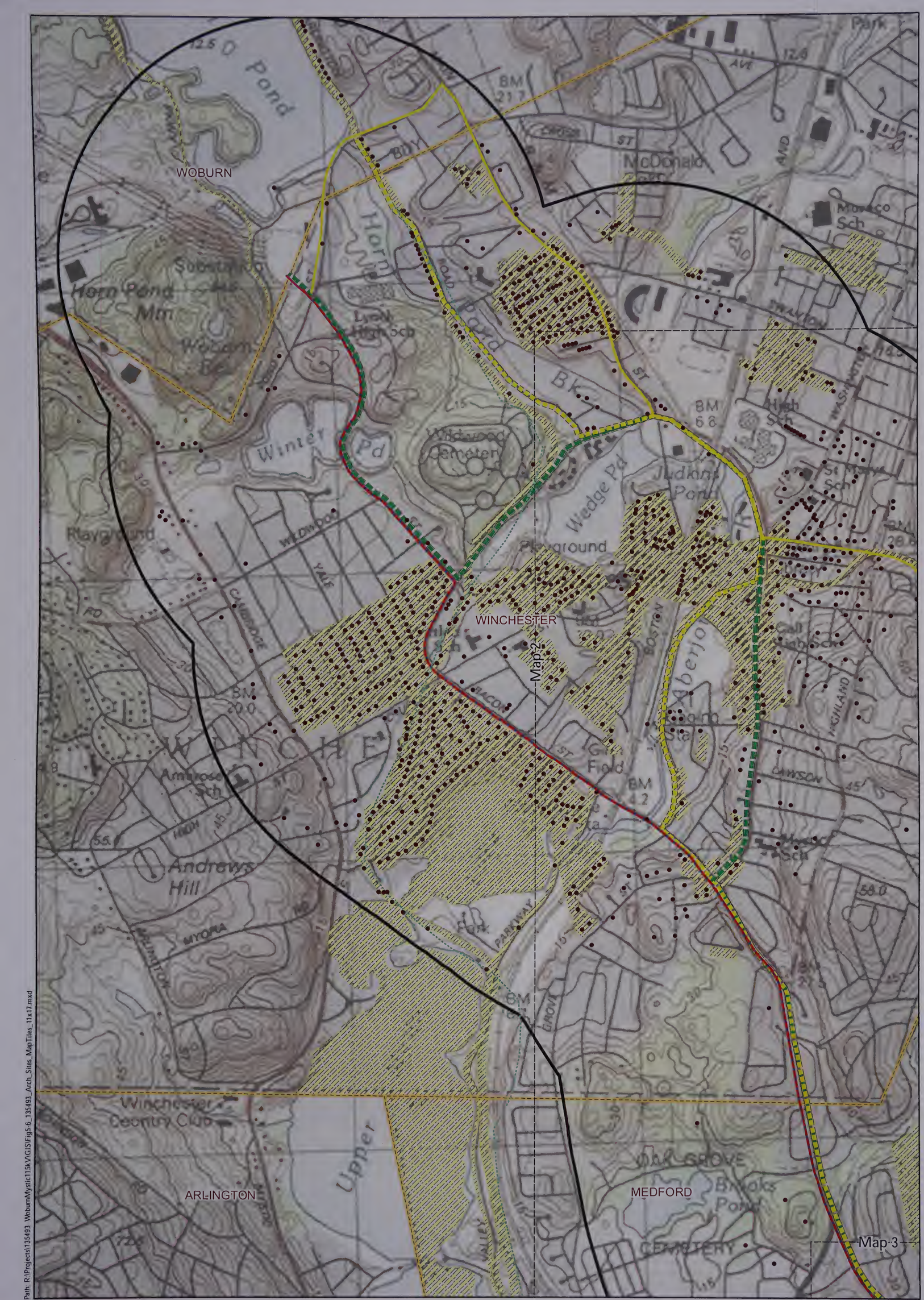

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NAD 1983 StatePlane Massachusetts Mainland FIPS 2001 Feet Fost US
Lambert Conformal Conic
North American 1983

The State of Massachusetts
Middlesex and Suffolk Counties:
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Date: 5/18/2015
Author: KK
POWER: 135493

New 115 kV Transmission Line
Woburn Substation to
Mystic Substation
Candidate Route Alternatives

Figure 5-6
Historic Resources

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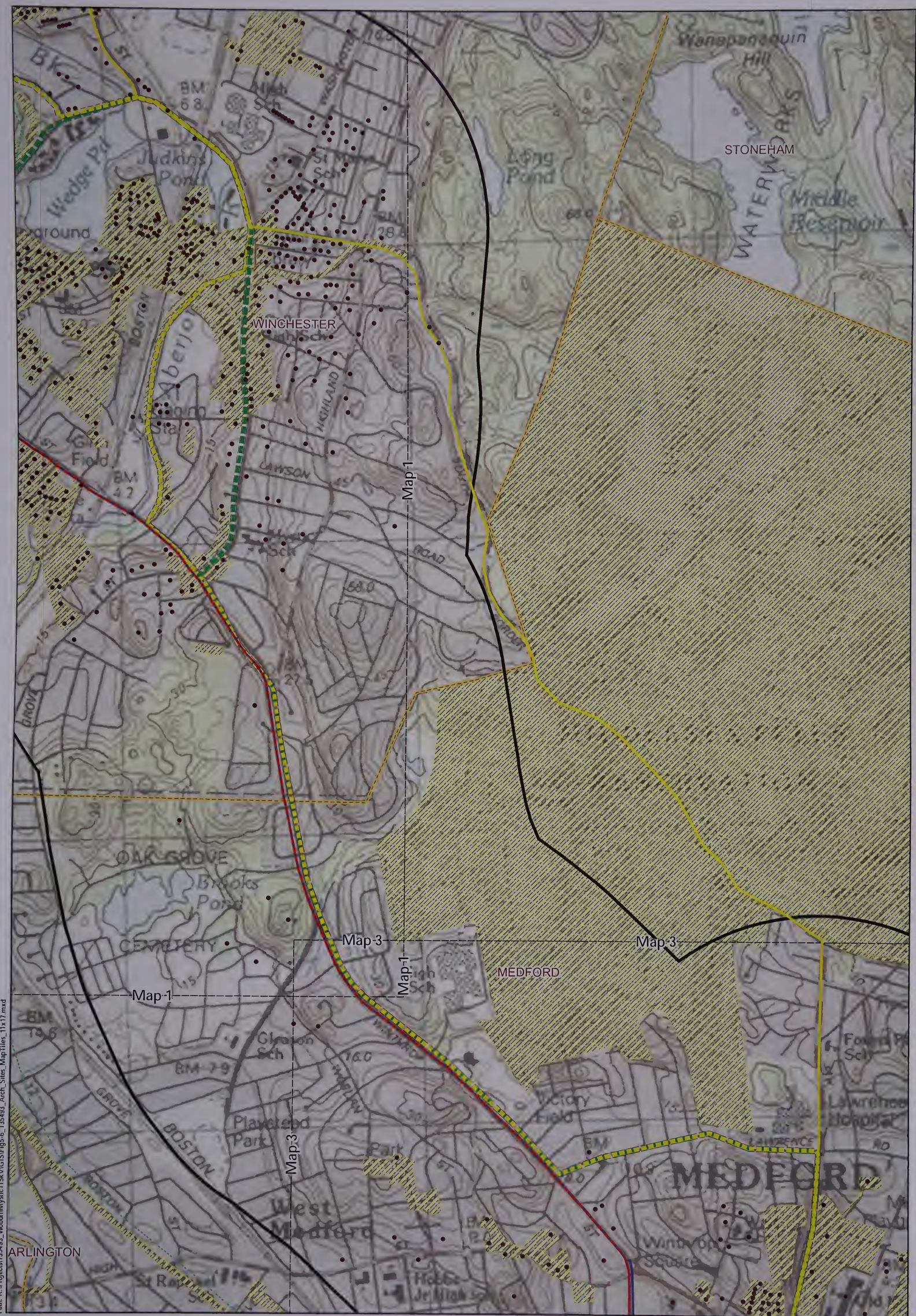

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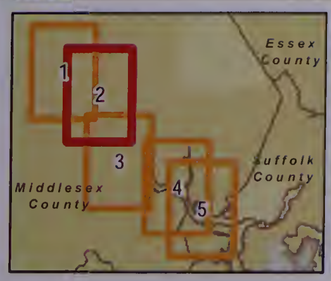

- Route 1 (Parallel Lines 211/514)
- Route 1A (MBTA RR crossing; use Maffa Way Bridge & Rte 38 south ramp)
- Route 1B (MBTA RR crossing; use Rte 38 [Maine Street/Mystic Avenue] Bridge)
- Route 4
- Route 4A
- Route 4B
- Canal
- Historic Areas
- Historic Properties
- Half Mile Buffer
- Township Boundary

N
W E
S

1 " = 1,000 '

0 500 1,000

Feet

Page 2 of 5

NAD 1983 StatePlane Massachusetts Mainland FIPS 2001 Feet
Foot US
Lambert Conformal Conic
North American 1983

The State of Massachusetts

Middlesex and Suffolk Counties
Boston, Everett, Medford, Somerville, Winchester, and Woburn Townships

Date: 5/18/2015

Author: KK

POWER: 135493

New 115 kV Transmission Line
Woburn Substation to
Mystic Substation
Candidate Route Alternatives

Figure 5-6
Historic Resources

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NAD 1983 StatePlane Massachusetts Mainland FIPS 2001 Feet Foot US
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Mystic Substation
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POWER ENGINEERS Environmental Services Div.
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New 115 kV Transmission Line
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Figure 5-6
Historic Resources

POWER ENGINEERS Environmental Services Div.
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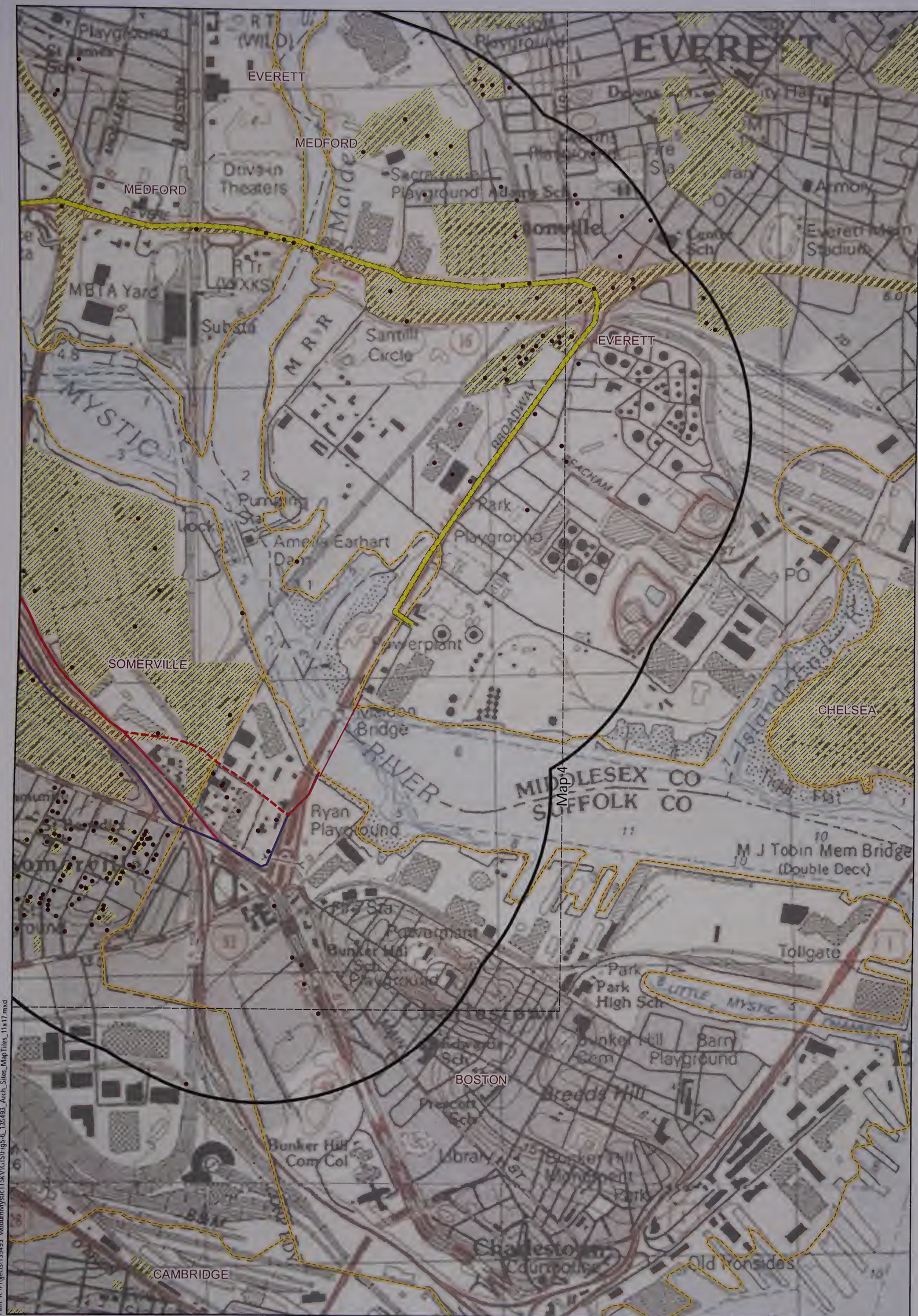
Tighe&Bond



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NAD 1983 StatePlane Massachusetts Mainland FIPS 2001 Feet
Foot US
Lambert Conformal Conic
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New 115 kV Transmission Line
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Historic Resources

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FIGURE 5-7

Candidate Routes - Article 97 Lands and Wetland Resources

INDEX MAP

Legend

- Route 1 (Parallel Lines 211/514)
- Route 1A (MBTA RR crossing; use Maffa Way Bridge & Rte 38 south ramp)
- Route 1B (MBTA RR Crossing; use Rte 38 (Main Street/Mystic Avenue) Bridge)
- Route 4
- Route 4A
- Route 4B
- T&B Field Delineated Wetland Boundary

Outstanding Resource Waters

- Public Water Supply Watershed
- Article 97 Lands
- MassGIS NHESP Priority Habitats for Rare Species/Wildlife
- MassDEP Wetlands
- Existing Mystic River Crossing
- Municipal Boundary
- Waterbody Crossing

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

Figure 5-7

New 115 kV Transmission Line
Woburn Substation to Mystic Substation
Candidate Routes - with Article 97 Lands and Wetland Resources

Mapsheet 01 of 04

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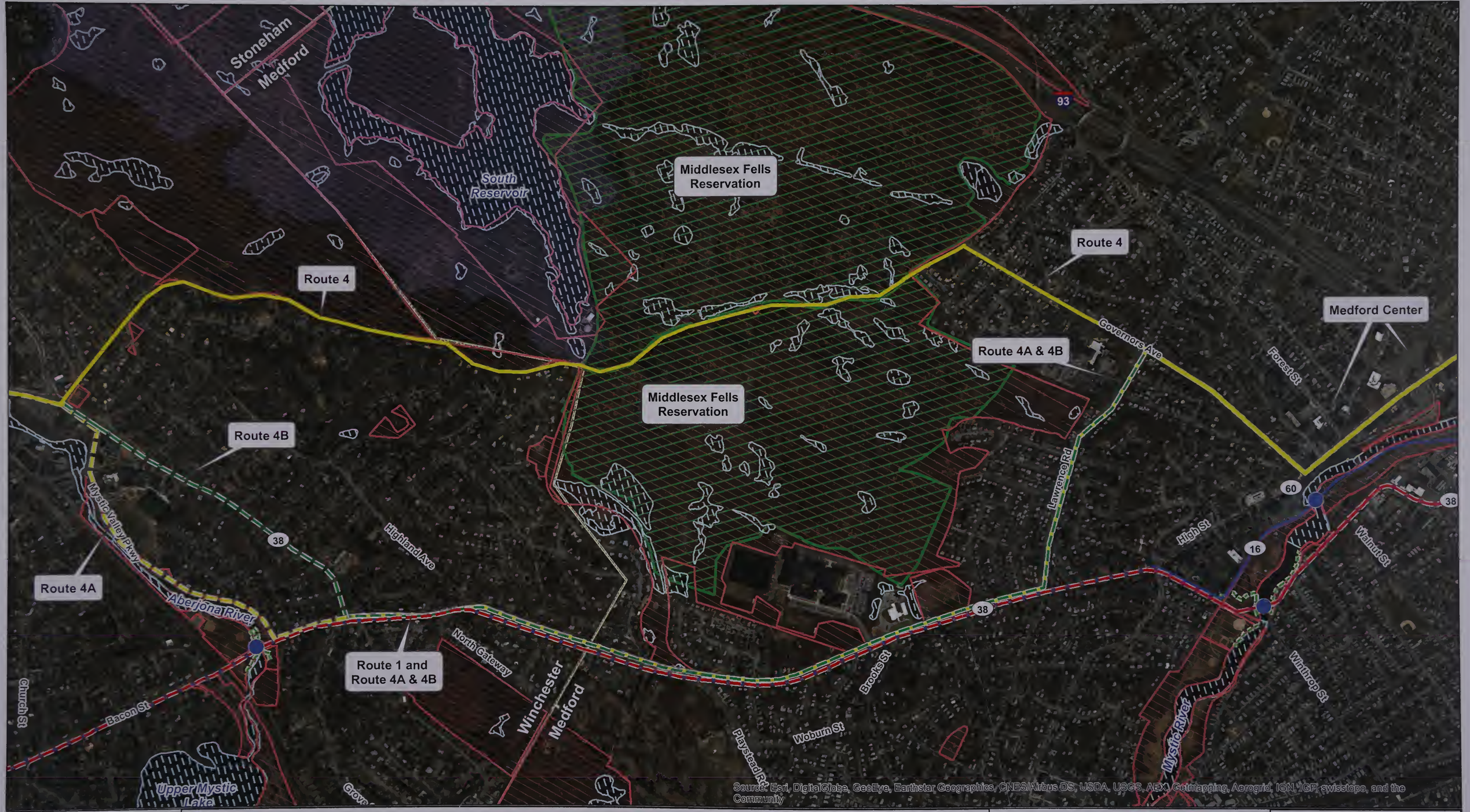

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- Municipal Boundary
- Waterbody Crossing

0 500 1,000 2,000 Feet

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

Figure 5-7

New 115 kV Transmission Line
Woburn Substation to Mystic Substation
Candidate Routes - with Article 97 Lands and Wetland Resources

Mapsheet 02 of 04

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MBTA RR Crossing - Commuter Rail & Orange Line

Route 4

Route 4A & 4B

Medford Center

Everett

Second St

Fellsway

Washington St

Spring St

Locust St

Mystic River

Temple Rd

Governors Ave

Forest St

Lawrence Rd

High St

Walnut St

Main St

Hancock St

Bonner Ave

Somerville

Medford St

Broadway

Connors Dr

Temple St

Grant St

Wheatland St

Fellsway W

Winthrop St

93

38

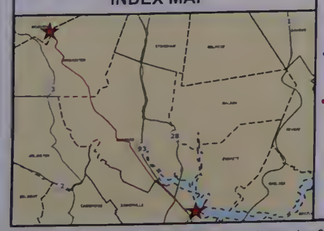
60

16

28

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

INDEX MAP



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- MassDEP Wetlands
- Existing Mystic River Crossing
- Municipal Boundary
- Waterbody Crossing

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

Figure 5-7

New 115 kV Transmission Line
Woburn Substation to Mystic Substation
Candidate Routes - with Article 97 Lands and Wetland Resources

Mapsheet 03 of 04

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Revere Beach Pkwy (Rte 16) / Rte 99 Traffic Rotary

MBTA RR Crossing - Broadway (Rte 99) Ramp Bridge

Route 4, 4A & 4B

Malden River Crossing

MBTA RR Crossing - Commuter Rail & Orange Line

Mystic Substation

Use Existing Mystic River Crossing (spare conduit)

MBTA RR Crossing

Route 1B

Route 1A

Revere Beach Pkwy

Santilli Hwy

Beacham St

Dexter St

Second St

Fellsway

Locust St

Temple Rd

28

93

Everett

Somerville

Boston

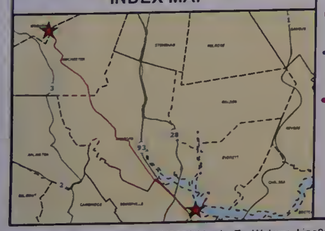
Chelsea

Charlestown

Mystic River

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the Community

INDEX MAP



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- Municipal Boundary
- Waterbody Crossing

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

Figure 5-7

New 115 kV Transmission Line
Woburn Substation to Mystic Substation
Candidate Routes - with Article 97 Lands and Wetland Resources

Mapsheet 04 of 04

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FIGURE 5-8

MCP Release Sites Along Candidate Routes

INDEX MAP

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- Route 1 (Parallel Lines 211/514)
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- Municipal Boundary
- Waterbody Crossing

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

Figure 5-8

New 115 kV Transmission Line
Woburn Substation to Mystic Substation
MCP Release Sites along Candidate Routes

Mapsheet 01 of 04

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Stoneham
Medford
South Reservoir
93
Route 4
Route 4A & 4B
Route 4B
Route 4A
Route 1,
Route 4A & 4B
1867
Road
Wyoming Valley Pkwy
38
Highland Ave
Aberjona River
North Gateway
Winchester
Medford
Church St
Bacon St
Upper Mystic Lake
Grove
Playstead Rd
Woburn St
Brooks St
Governors Ave
Lawrence Rd
RTN 3-0013527
Tier 2
65 Riverside Avenue
Medford Center
60
16
High St
Walnut St
Winthrop St
Mystic River

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

Figure 5-8

New 115 kV Transmission Line
Woburn Substation to Mystic Substation
MCP Release Sites along Candidate Routes

Mapsheet 02 of 04

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MBTA RR Crossing - Commuter Rail & Orange Line

RTN 3-0010429
Closed with AUL
461 Riverside Ave

RTN 3-0021584
Closed with AUL
30 Commercial Street

RTN 3-0013527
Tier 2
65 Riverside Avenue

Route 4

Route 4A & 4B

Medford Center

Route 1A

Everett
Second St
Fellsway
Washington St
Spring St
Locust St
Mystic River
Temple Rd
Governors Ave
Lawrence Rd
High St
Walnut St
Main St
Hancock St
Bonner Ave
Somerville
Medford
Broadway
Grant St
Wheatland St
Fellsway W
Connors Dr
Temple St
Winthrop St

93 28 60 38 16

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the Community

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Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

Figure 5-8

New 115 kV Transmission Line
Woburn Substation to Mystic Substation
MCP Release Sites along Candidate Routes

Mapsheet 03 of 04

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Revere Beach Pkwy (Rte 16) / Rte 99 Traffic Rotary

MBTA RR Crossing - Broadway (Rte 99) Ramp Bridge

RTN 3-0011889 Closed with AUL 210 Broadway

Route 4, 4A & 4B

Malden River Crossing

RTN 3-0017760 Closed with AUL 38-48 Broadway

Mystic Substation

MBTA RR Crossing - Commuter Rail & Orange Line

Use Existing Mystic River Crossing

RTN 3-0010429 Closed with AUL 1 Riverside Ave

3-0021584 d with AUL nercial Street

MBTA RR Crossing

Route 1B

Route 1A

Revere Beach Pkwy

Santilli Hwy

Beacham St

Dexter St

Second St

Fellsway

Everett

Somerville

Boston

Chelsea

Mystic River

Charlestown

Locust St

Temple Rd

28

93

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the Community

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Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

Figure 5-8

New 115 kV Transmission Line
Woburn Substation to Mystic Substation
MCP Release Sites along Candidate Routes

Mapsheet 04 of 04

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FIGURE 5-9

Selected Preferred Route and Noticed Alternative Route

Winchester Center

Noticed Alternative

Preferred Route & Noticed Alternative

Noticed Alternative

Woburn Substation

Woburn

Winchester

Lake Ave

Lake Ter

Pond St

Horn Pond

Main St

Sylvester Ave

Skillings Rd

Lake St

Palmer St

Wedge Pond

Washington St

Mystic Valley Pkwy

38

South Reservoir

Highland Ave

Aberjona River

North Gateway

Winchester

Medford

Woodside Rd

Wildwood St

Church St

Bacon St

Winter Pond

Wildwood St

Upper Mystic Lake

Grove St

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the Community

INDEX MAP

Legend

- Preferred Route
- Mystic Ave / Main St Noticed Variation
- Noticed Alternative Route
- Existing Mystic River Crossing
- Municipal Boundary

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

New 115 kV Transmission Line
Woburn Substation to Mystic Substation

Figure 5-9

Selected Preferred and Noticed Alternative Routes

Mapsheet 01 of 04

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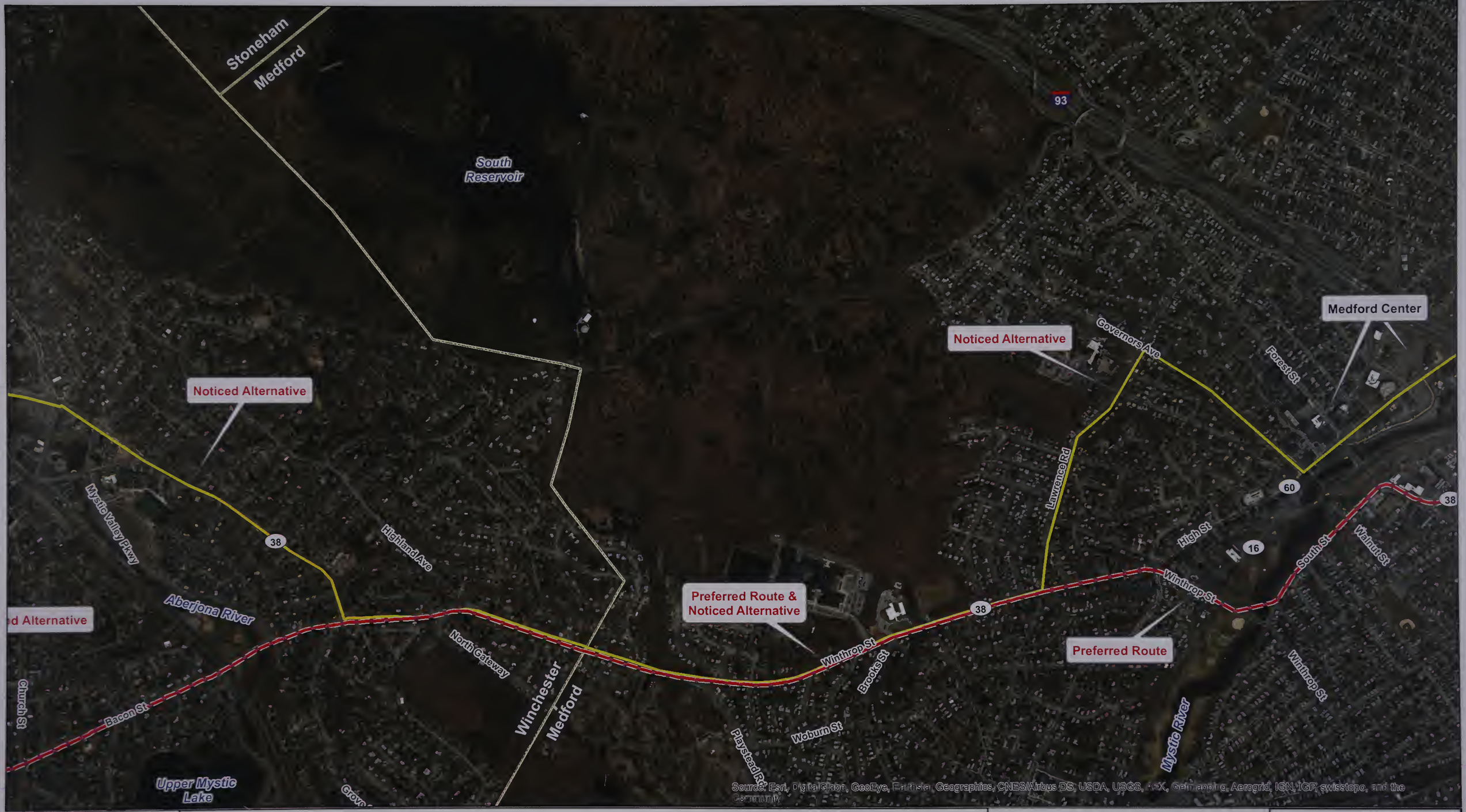

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- Noticed Alternative Route
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- Municipal Boundary

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

New 115 kV Transmission Line
Woburn Substation to Mystic Substation

Figure 5-9

Selected Preferred and Noticed Alternative Routes

Mapsheet 02 of 04

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MBTA RR Crossing - Commuter Rail & Orange Line

Noticed Alternative

Noticed Alternative

Medford Center

Preferred Route

Preferred Route

Second St

Everett

Fellsway

Washington St

Spring St

Locust St

Mystic River

Temple Rd

Forest St

Governors Ave

Lawrence Rd

High St

South St

Walnut St

Winthrop St

Winthrop St

Main St

Hancock St

Bonner Ave

Medford

Somerville

Connors Dr

Temple St

Broadway

Medford St

Grant St

Wheatland St

Fellsway W

93

38

60

16

28

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the Community

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Legend

- Preferred Route
- Mystic Ave / Main St Noticed Variation
- Noticed Alternative Route
- Existing Mystic River Crossing
- Municipal Boundary

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

New 115 kV Transmission Line
Woburn Substation to Mystic Substation

Figure 5-9

Selected Preferred and Noticed Alternative Routes

Mapsheet 03 of 04

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MBTA RR Crossing

Mystic River

Chelsea

Beacham St

Revere Beach Pkwy

Santilli Hwy

Noticed Alternative

Malden River Crossing

Mystic Substation

Dexter St

Everett

MBTA RR Crossing - Commuter Rail & Orange Line

Second St

Use Existing Mystic River Crossing (spare conduit)

Fellsway

Noticed Alternative

Somerville

Boston

Alford St

Charlestown

MBTA RR Crossing

Mystic Ave / Main St Noticed Variation

Main St

Mystic River

28

Temple Rd

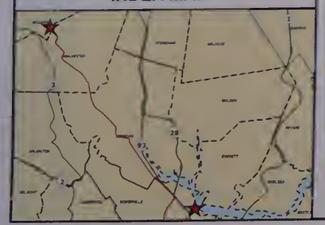
93

Louis St

Boston

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the Community

INDEX MAP



Legend

- Preferred Route
- Mystic Ave / Main St Noticed Variation
- Noticed Alternative Route
- Existing Mystic River Crossing
- Municipal Boundary

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

New 115 kV Transmission Line
Woburn Substation to Mystic Substation

Figure 5-9

Selected Preferred and Noticed Alternative Routes

Mapsheet 04 of 04

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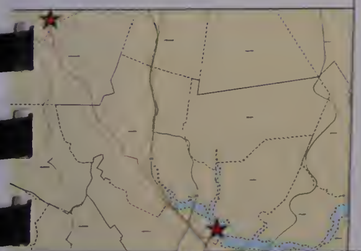
FIGURE 6-3

Preferred Route and Noticed Alternative - Overview Map

INDEX MAP



Legend

- Preferred Route
- Mystic Ave / Main St Noticed Variation
- Noticed Alternative Route
- Existing Mystic River Crossing
- MassDEP Wetlands
- Municipal Boundary

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 1,000 2,000 4,000 Feet

New 115 kV Transmission Line
Woburn Substation to Mystic Substation

Figure 6-3

Preferred Route and Noticed Alternative Overview Map

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FIGURE 6-4

Preferred Route and Noticed Alternative (Sheet 4 of 4)

Winchester Center

Noticed Alternative

Preferred Route & Noticed Alternative

Noticed Alternative

Woburn Substation

Woburn

Winchester

Medford

Lake Ave

Lake Ter

Pond St

Main St

Sylvester Ave

Lake St

Palmer St

Skillings Rd

Washington St

Mystic Valley Pkwy

Aberjona River

Highland Ave

North Gateway

Woodside Rd

Wildwood St

Wildwood St

Church St

Bacon St

Grove St

Horn Pond

Wedge Pond

Winter Pond

Upper Mystic Lake

South Reservoir

38

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

INDEX MAP

Legend

- Preferred Route
- Mystic Ave / Main St Noticed Variation
- Noticed Alternative Route
- Existing Mystic River Crossing
- MassDEP Wetlands
- Municipal Boundary

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

New 115 kV Transmission Line
Woburn Substation to Mystic Substation

Figure 6-4

Selected Preferred and Noticed Alternative Routes

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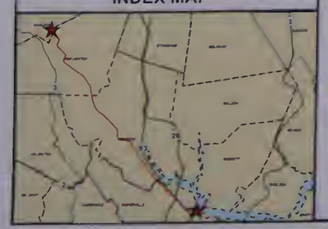
Stoneham
Medford
South Reservoir
93
Noticed Alternative
Governors Ave
Medford Center
Forest St
Noticed Alternative
Lawrence Rd
60
38
Mystic Valley Pkwy
Highland Ave
High St
16
South St
Walnut St
Aberjona River
Preferred Route &
Noticed Alternative
Winthrop St
Preferred Route
North Gateway
Winchester
Medford
Brooks St
Church St
Bacon St
Woburn St
Playstead Rd
Mystic River
Upper Mystic Lake
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

INDEX MAP



Legend

- Preferred Route
- Mystic Ave / Main St Noticed Variation
- Noticed Alternative Route
- Existing Mystic River Crossing
- MassDEP Wetlands
- Municipal Boundary

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

New 115 kV Transmission Line
Woburn Substation to Mystic Substation

Figure 6-4

Selected Preferred and Noticed Alternative Routes

Mapsheet 02 of 04

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MBTA RR Crossing - Commuter Rail & Orange Line

Noticed Alternative

Noticed Alternative

Medford Center

Preferred Route

Preferred Route

Everett

Fellsway

Second St

Washington St

Spring St

Locust St

Mystic River

Temple Rd

Governors Ave

Forest St

Lawrence Rd

High St

South St

Walnut St

Winthrop St

Winthrop St

Main St

Hancock St

Bonner Ave

Somerville

Medford St

Broadway

Temple St

Connors Dr

Grant St

Wheatland St

Fellsway W

93

38

60

16

28

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

INDEX MAP

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- Preferred Route
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- MassDEP Wetlands
- Municipal Boundary

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

New 115 kV Transmission Line Woburn Substation to Mystic Substation

Figure 6-4

Selected Preferred and Noticed Alternative Routes

Mapsheet 03 of 04

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MBTA RR Crossing

Malden River Crossing

MBTA RR Crossing - Commuter Rail & Orange Line

Noticed Alternative

Noticed Alternative

Mystic Substation

Use Existing Mystic River Crossing (spare conduit)

MBTA RR Crossing

Mystic Ave / Main St Noticed Variation

Beacham St

Dexter St

Alford St

Main St

Revere Beach Pkwy

Santilli Hwy

Second St

Fellsway

Locust St

Temple Rd

Mystic River

Chelsea

Everett

Somerville

Boston

Charlestown

28

93

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the Community

INDEX MAP

Legend

- Preferred Route
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- MassDEP Wetlands
- Municipal Boundary

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

New 115 kV Transmission Line
Woburn Substation to Mystic Substation

Figure 6-4

Selected Preferred and Noticed Alternative Routes

Mapsheet 04 of 04

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FIGURE 6-5

Preferred Route and Noticed Alternative (Sheet 4 of 4) –

Land Use and Sensitive Receptors

INDEX MAP

Legend

- Waterbody Crossing
- Preferred Route
- Mystic Ave / Main St Noticed Variation
- Noticed Alternative Route
- Existing Mystic River Crossing
- Municipal Boundary

Land Use

- Commercial
- Residential
- Industrial
- Multi-Family Residential

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

New 115 kV Transmission Line
Woburn Subataino to Mystic Substaion

Figure 6-5

Preferred Route & Noticed Alternative - Land Use & Sensitive Receptors

Mapsheet 01 of 04

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May 2015

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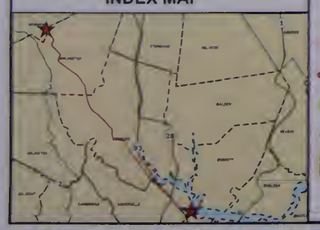
Stoneham
Medford
First Baptist Church
Winchester Town Hall
Council on Aging
South Reservoir
Middlesex Fells Reservation
93
Salem St. Burying Ground Park
Public Bus Route
Lawrence Memorial Hospital
Governors Ave
Forest St
Medford Center
Noticed Alternative
Lincoln Elementary School
McCall Middle School
Temple Shalom
McDonald Park
Lawrence Rd
Mystic Valley Pkwy
Noticed Alternative
38
Children's Own School
Highland Ave
Medford Vocational Tech. High School
Veterans Memorial
Victory Park
American Legion
High St
60
16
38
Playground
rgaad Beach
ker Tennis
Courts
Public Bus Route
Public Bus Route
Medford Fire Station
Walnut St
Aberjona River
Ginn (Recreational) Park
North Gateway
Elder Care Facility
Winthrop Sq. Rotary
Preferred Route
oticed
ernative
Brooks St
Bacon St
Aberjona River Crossing - Bacon St. Bridge
Preferred Route & Noticed Alternative
Winchester
Medford
Veterans Memorial Park
Winthrop St
MBTA T-Station (Wedgemere)
Oak Grove Cemetary
Playstead Rd
Woburn St
Mystic River
Upper Mystic Lake
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

INDEX MAP



Legend

- Waterbody Crossing
- Preferred Route
- Mystic Ave / Main St Noticed Variation
- Noticed Alternative Route
- Existing Mystic River Crossing
- Municipal Boundary

Land Use

- Commercial
- Residential
- Industrial
- Multi-Family Residential

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

New 115 kV Transmission Line Woburn Subataino to Mystic Substaion

Figure 6-5

Preferred Route & Noticed Alternative - Land Use & Sensitive Receptors

Mapsheet 02 of 04

EVERSOURCE ENERGY

POWER ENGINEERS Environmental Services Div. Tighe&Bond

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INDEX MAP

Legend

- Waterbody Crossing
- Preferred Route
- Mystic Ave / Main St Noticed Variation
- Noticed Altemative Route
- Existing Mystic River Crossing
- Municipal Boundary

Land Use

- Commercial
- Residential
- Industrial
- Multi-Family Residential

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

New 115 kV Transmission Line Woburn Subataino to Mystic Substaion

Figure 6-5

Preferred Route & Noticed Alternative - Land Use & Sensitive Receptors

Mapsheet 03 of 04

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INDEX MAP

Legend

- Waterbody Crossing
- Preferred Route
- Mystic Ave / Main St Noticed Variation
- Noticed Alternative Route
- Existing Mystic River Crossing
- Municipal Boundary

Land Use

- Commercial
- Residential
- Industrial
- Multi-Family Residential

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

New 115 kV Transmission Line Woburn Subataino to Mystic Substaion

Figure 6-5

Preferred Route & Noticed Alternative - Land Use & Sensitive Receptors

Mapsheet 04 of 04

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FIGURE 6-6

Preferred Route and Noticed Alternative - Historic Resources

Map 1 of 4

NAD 1983 StatePlane Massachusetts Mainland FIPS 2001 Feet Feet US
Lambert Conformal Conic
North American 1983

The State of Massachusetts
Middlesex and Suffolk Counties
Boston, Everett, Medford, Somerville, Winchester, and Woburn Townships

Date: 5/18/2015
Author: KK
POWER: 135493

New 115 kV Transmission Line
Woburn Substation to
Mystic Substation
Preferred and Noticed
Alternative Routes

Figure 6-6
Historic Resources

POWER ENGINEERS Environmental Services Div.
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Tighe&Bond

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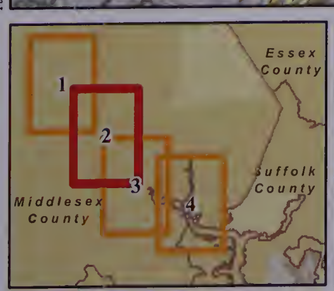

- Noticed Alternative Route
- Preferred Route
- Historic Mystic River Canal
- Historic Properties
- Historic Areas
- Half Mile Buffer
- Township Boundary

N
W E
S

1 " = 1,000 '

0 500 1,000

Feet

Map 2 of 4

NAD 1983 StatePlane Massachusetts Mainland FIPS 2001 Feet Foot US
Lambert Conformal Conic
North American 1983

The State of Massachusetts
Middlesex and Suffolk Counties
Boston, Everett, Medford, Somerville, Winchester, and Woburn Townships

Date: 5/18/2015
Author: KK
POWER 135493

New 115 kV Transmission Line
Woburn Substation to
Mystic Substation
Preferred and Noticed
Alternative Routes

Figure 6-6
Historic Resources

POWER ENGINEERS Environmental Services Div.
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Path: R:\Projects\135493_WoburnMystic115kV\GIS\Fig6-6_135493_Arch_Sites_MapTiles_11x17.mxd

Map 3 of 4

NAD 1983 StatePlane Massachusetts Mainland FIPS 2001 Feet FeetUS
Lambert Conformal Conic
North American 1983

The State of Massachusetts
Middlesex and Suffolk Counties
Boston, Everett, Medford, Somerville, Winchester, and Woburn Townships

Date: 5/18/2015
Author: KK
POWER 135493

New 115 kV Transmission Line
Woburn Substation to
Mystic Substation
Preferred and Noticed
Alternative Routes

Figure 6-6
Historic Resources

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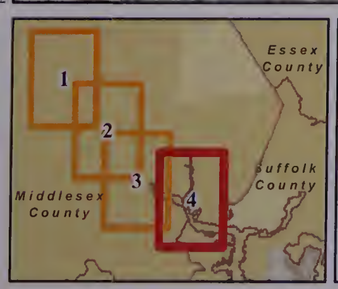

- Noticed Alternative Route
- Preferred Route
- Historic Mystic River Canal
- Historic Properties
- Historic Areas
- Half Mile Buffer
- Township Boundary

N
W E
S

1 " = 1,000 '

0 500 1,000

Feet

Map 4 of 4

NAD 1983 StatePlane Massachusetts Mainland FIPS 2001 Feet FeetUS
Lambert Conformal Conic
North American 1983

The State of Massachusetts
Middlesex and Suffolk Counties
Boston, Everett, Medford, Somerville, Winchester, and Woburn Townships

Date: 5/18/2015
Author: KK
POWER 135493

New 115 kV Transmission Line
Woburn Substation to
Mystic Substation
Preferred and Noticed
Alternative Routes

Figure 6-6
Historic Resources

POWER ENGINEERS Environmental Services Div.
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FIGURE 6-7

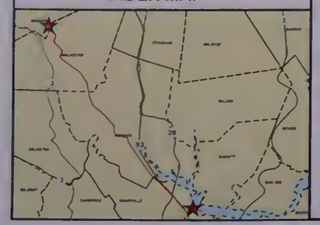
Preferred Route and Noticed Alternative -

Article 97 Lands and Wetland Resources

Winchester Center
Washington St
South Reservoir
Skillings Rd
Main St
Noticed Alternative
Lake St
Wyoma Valley Pkwy
Highland Ave
38
Woburn
Winchester
Lake Ave
Lake Ter
Sylvester Ave
Palmer St
Wedge Pond
Aberjona River
Ginn Recreation Field (Winchester)
Horn Pond
Pond St
Preferred Route & Noticed Alternative
Woodside Rd
Wildwood St
Church St
Bacon St
North Gateway
Preferred Route & Noticed Alternative
Winchester
Medford
Woburn Substation
Winter Pond
Wildwood St
Preferred Route
Upper Mystic Lakes Reservation
Upper Mystic Lake
Grove St

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS Community

INDEX MAP



Legend

- Waterbody Crossing
- Preferred Route
- Mystic Ave / Main St Noticed Variation
- Noticed Alternative Route
- Existing Mystic River Crossing

Outstanding Resource Waters

- Public Water Supply Watershed
- Article 97 Lands
- MassDEP Wetlands
- MassGIS NHESP Priority Habitats for Rare Species/Wildlife
- Municipal Boundary

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

Figure 6-7

New 115 kV Transmission Line Woburn Substation to Mystic Substation

Preferred & Noticed Alternative Routes with Article 97 Lands and Wetland Resources

Mapsheet 01 of 04

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Stoneham
Medford
South Reservoir
Middlesex Fells Reservation
93
Noticed Alternative
Noticed Alternative
Covernors Ave
Forest St
Medford Center
Lawrence Rd
Mystic Valley Reservation - MacDonald Park
60
38
Mystic Valley Pkwy
Highland Ave
38
High St
16
Walnut St
Aberjona River
Ginn Recreation Field (Winchester)
Preferred Route & Noticed Alternative
North Gateway
Winchester
Medford
Brooks St
Veterans Park
Mystic Valley Reservation (DCR)
Winthrop St
Church St
Bacon St
Upper Mystic Lakes Reservation
Playstead Rd
Woburn St
Mystic River
Upper Mystic Lake
Grove
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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- MassGIS NHESP Priority Habitats for Rare Species/Wildlife
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Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

Figure 6-7

New 115 kV Transmission Line Woburn Substation to Mystic Substation

Preferred & Noticed Alternative Routes with Article 97 Lands and Wetland Resources

Mapsheet 02 of 04

EVERSOURCE ENERGY

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MBTA RR Crossing - Commuter Rail & Orange Line

Mystic Valley Parkway (DCR)

Medford Center

Noticed Alternative

Mystic Valley Reservation - MacDonald Park

Mystic Valley Reservation (DCR)

Veterans Park

Preferred Route

Second St
Everett
Fellsway
Washington St
Spring St
Locust St
Mystic River
Temple Rd
Governors Ave
Forest St
Lawrence Rd
High St
Walnut St
Main St
Hancock St
Bonner Ave
Somerville
Medford St
Broadway
Temple St
Connors Dr
Grain St
Wheatland St
Fellsway W
Winthrop St

93 38 60 16 28

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS Community

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- Existing Mystic River Crossing

Outstanding Resource Waters

- Public Water Supply Watershed
- Article 97 Lands
- MassDEP Wetlands
- MassGIS NHESP Priority Habitats for Rare Species/Wildlife
- Municipal Boundary

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

Figure 6-7

New 115 kV Transmission Line Woburn Substation to Mystic Substation

Preferred & Noticed Alternative Routes with Article 97 Lands and Wetland Resources

Mapsheet 03 of 04

EVERSOURCE ENERGY

POWER ENGINEERS Environmental Services Div. Tighe&Bond

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Revere Beach Pkwy (Rte 16) / Rte 99 Traffic Rotary

MBTA RR Crossing - Broadway (Rte 99) Ramp Bridge

Revere Beach Parkway (DCR)

Noticed Alternative

Malden River Crossing

MBTA RR Crossing - Commuter Rail & Orange Line

Mystic Valley Parkway (DCR)

Mystic Substation

Use Existing Mystic River Crossing (spare conduit)

MBTA RR Crossing

Mystic Ave / Main St Noticed Variation

Preferred Route

Revere Beach Pkwy

Santilli Hwy

Beacham St

Dexter St

Second St

Fellsway

Everett

Somerville

Boston

Chelsea

Charlestown

Mystic River

Locust St

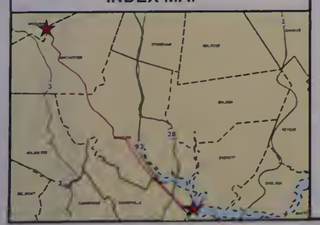
Temple Rd

28

93

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the Community

INDEX MAP



Legend

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- Noticed Alternative Route
- Existing Mystic River Crossing

Outstanding Resource Waters

- Public Water Supply Watershed
- Article 97 Lands
- MassDEP Wetlands
- MassGIS NHESP Priority Habitats for Rare Species/Wildlife
- Municipal Boundary

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

Figure 6-7

New 115 kV Transmission Line Woburn Substation to Mystic Substation

Preferred & Noticed Alternative Routes with Article 97 Lands and Wetland Resources

Mapsheet 04 of 04

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FIGURE 6-8

MCP Release Sites along the Preferred Route &

Noticed Alternative Route

INDEX MAP

Legend

- Preferred Route
- Mystic Ave / Main St Noticed Variation
- Noticed Alternative Route
- Existing Mystic River Crossing
- MassGIS NHESP Priority Habitats for Rare Species/Wildlife
- MassDEP Wetlands
- Municipal Boundary

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

Figure 6-8

New 115 kV Transmission Line
Woburn Substation to Mystic Substation

MCP Release Sites along the Preferred Route & Noticed Alternative Route

Mapsheet 01 of 04

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INDEX MAP

Legend

- Preferred Route
- Mystic Ave / Main St Noticed Variation
- Noticed Alternative Route
- Existing Mystic River Crossing
- MassGIS NHESP Priority Habitats for Rare Species/Wildlife
- MassDEP Wetlands
- Municipal Boundary

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

Figure 6-8
New 115 kV Transmission Line
Woburn Substation to Mystic Substation
MCP Release Sites along the Preferred Route & Noticed Alternative Route
Mapsheet 02 of 04

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POWER ENGINEERS Environmental Services Div

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May 2015

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MBTA RR Crossing - Commuter Rail & Orange Line

RTN 3-0010429
Closed with AUL
461 Riverside Ave

RTN 3-0016354
URAM
Commercial Street

RTN 3-0021584
Closed with AUL
30 Commercial Street

RTN 3-0012267
URAM
Locust Street

RTN 3-0000371
C1 RAO
3960 Mystic Valley PKWY

Medford Center

Noticed Alternative

RTN 3-0013527
Tier 2
65 Riverside Avenue

Preferred Route

Second St
Fellsway
Everett
Washington St
Commercial St
Locust St
Mystic River
Temple Rd
Governors Ave
Lawrence Rd
High St
Walnut St
Main St
Hancock St
Bonner Ave
Somerville
Medford St
Broadway
Connors Dr
Temple St
Grant St
Wheatland St
Fellsway W
Winthrop St

93
28
38
60
16

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the Community

INDEX MAP

Legend

- Preferred Route
- Mystic Ave / Main St Noticed Variation
- Noticed Alternative Route
- Existing Mystic River Crossing
- MassGIS NHESP Priority Habitats for Rare Species/Wildlife
- MassDEP Wetlands
- Municipal Boundary

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

Figure 6-8
New 115 kV Transmission Line Woburn Substation to Mystic Substation
MCP Release Sites along the Preferred Route & Noticed Alternative Route
Mapsheet 03 of 04

EVERSOURCE ENERGY

POWER ENGINEERS Environmental Services Div. Tighe&Bond

May 2015

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Revere Beach Pkwy (Rte 16) / Rte 99 Traffic Rotary

MBTA RR Crossing - Broadway (Rte 99) Ramp Bridge

RTN 3-0011889
Class A-3 RAO
210 Broadway

Noticed Alternative

Malden River Crossing

RTN 3-0017760
Closed with AUL
38-48 Broadway

Mystic Substation

MBTA RR Crossing - Commuter Rail & Orange Line

Use Existing Mystic River Crossing

RTN 3-0010429
Closed with AUL
1 Riverside Ave

RTN 3-0016354
URAM
Commercial Street

RTN 3-0021584
with AUL
Commercial Street

RTN 3-0012267
URAM
Locust Street

RTN 3-0000371
C1 RAO
3960 Mystic Valley PKWY

MBTA RR Crossing

Mystic Ave / Main St Noticed Variation

Preferred Route

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Chelsea
Mystic River
Beacham St
Revere Beach Pkwy
Santilli Hwy
Everett
Dexter St
Second St
Fellsway
Commercial St
Somerville
Boston
Charlestown
Mystic River
Locust St
Temple Rd
28
93
Boston

INDEX MAP

Legend

- Preferred Route
- Mystic Ave / Main St Noticed Variation
- Noticed Alternative Route
- Existing Mystic River Crossing
- MassGIS NHESP Priority Habitats for Rare Species/Wildlife
- MassDEP Wetlands
- Municipal Boundary

Map Notes:
Basemap: 2011-2013 Orthophotographs, MassGIS

0 500 1,000 2,000 Feet

Figure 6-8
New 115 kV Transmission Line
Woburn Substation to Mystic Substation
MCP Release Sites along the Preferred Route & Noticed Alternative Route
Mapsheet 04 of 04

EVERSOURCE ENERGY

POWER ENGINEERS Environmental Services Div. | Tighe&Bond

May 2015

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FIGURE 6-9

Woburn Substation Upgrades for Proposed New Line Alignment, Series Reactor & Termination

B-12211 REACTORS 115KV LINE

HORN POND

COVE

PROPERTY LINE

#A #B #C
LINE 319 (L9)

115KV LINES

OIL PUMP HOUSE

HEAT EXCHANGER

SPARE

TRD TOWER

YARD GRADE
52.88'

WATERFORD VALLEY HOUSE

STREET

CAPACITOR BANKS

EXISTING LINE 211-514

WOBURN
WINCHESTER

PROPERTY LINE

GARAGE

FLAGPOLE

WOBURN
WINCHESTER

PROPERTY LINE

STREET

THIS PROJECT INVOLVES WORK ON EQUIPMENT THAT IS OPERATING AT VOLTAGES BETWEEN 345 KVAC, 208Y/120 VAC AND 125 VDC. REMAIN AWARE OF MINIMUM APPROACH DISTANCES TO THESE VOLTAGES AND ISOLATE ACCORDINGLY

Nominal voltage in kilovolts	Distance: Phase to ground
0.05 to 1.0	Avoid contact
1.1 to 15.0	2'-1" (0.64m)
15.1 to 36.0	2'-4" (0.72m)
36.1 to 46.0	2'-7" (0.77m)
46.1 to 72.5	3'-0" (0.90m)
72.6 to 121	3'-2" (0.95m)
138 to 145	3'-7" (1.09m)
161 to 169	4'-0" (1.22m)
230 to 242	5'-3" (1.59m)
345 to 362	8'-6" (2.59m)
500 to 550	11'-3" (3.42m)
784 to 800	14'-11" (4.53m)

0 20 40 60 80 100 120 140 160 180 200
SCALE IN FEET

NO	DATE	DESCRIPTION OF ALTERATIONS	BY	CHECKED	APPROVED

TITLE OF REFERENCE DRAWINGS

DESIGN
DATE
SCALE 1/32 IN.=1 FOOT
THIS DWG PRODUCED FROM

FOR INFORMATION ONLY
ELECTRICAL
APPROVED

B-12211 REACTORS 115KV LINE

211 STATION

NSTAR ELECTRIC

FIGURE 6-9
WORURN SUBSTATION UPGRADES
PROPOSED NEW LINE ALIGNMENT,
SERIES REACTOR AND TERMINATION

LD.

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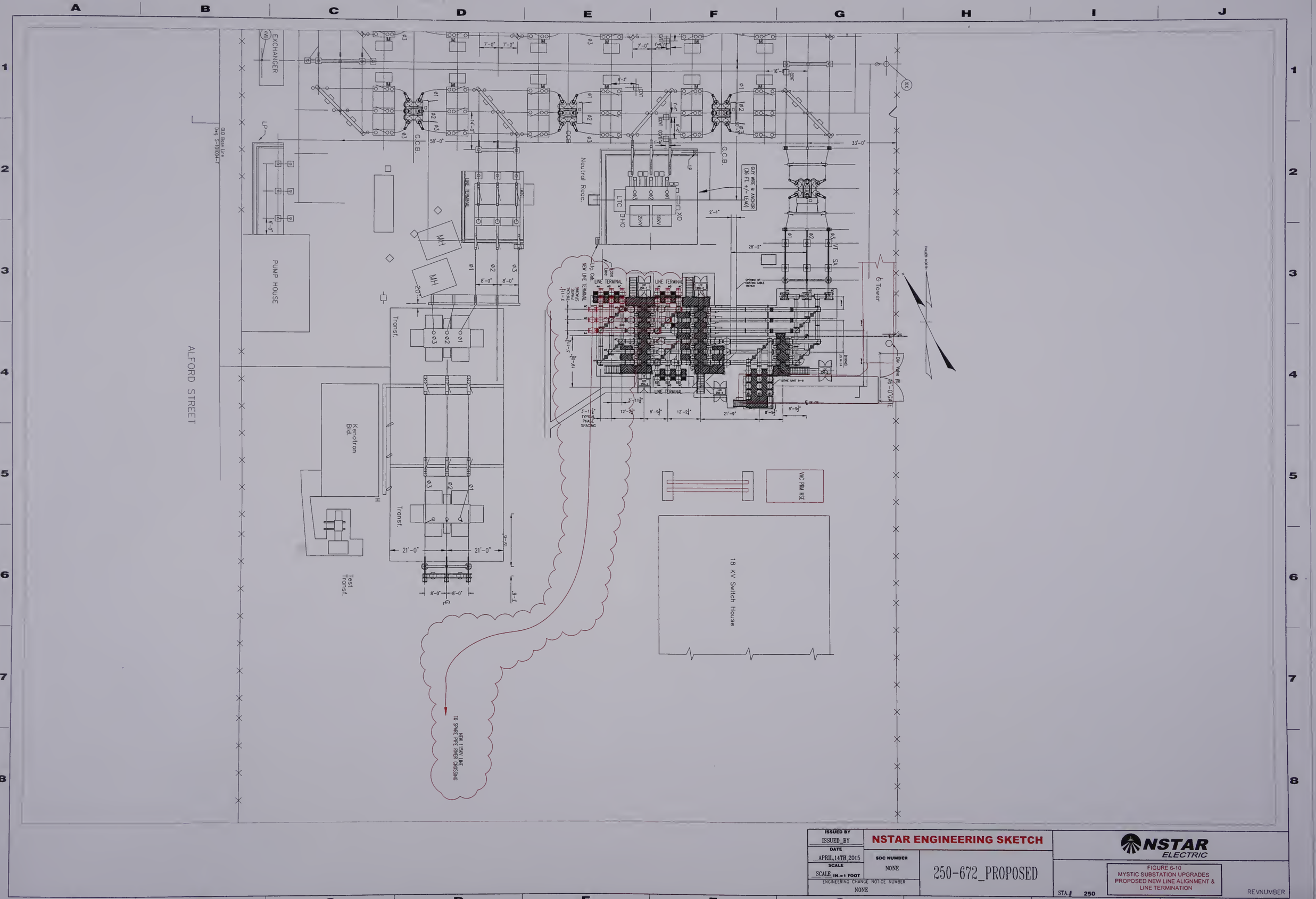
FIGURE 6-10

Mystic Substation Upgrades for Proposed New Line Alignment & Termination



ISSUED BY: ISSUED_BY	NSTAR ENGINEERING SKETCH		NSTAR ELECTRIC
DATE: APRIL 14TH 2015	SDC NUMBER: NONE	250-672_PROPOSED	FIGURE 6-10 MYSTIC SUBSTATION UPGRADES PROPOSED NEW LINE ALIGNMENT & LINE TERMINATION
SCALE: SCALE IN.=1 FOOT			STA.# 250 REVNUMBER
ENGINEERING CHANGE NOTICE NUMBER: NONE			